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ABSTRACT

Previous increases in the costs of Canadian education were easily explained by rising enrollments. In an era of declining enrollments, increased costs are much more difficult to explain. One reason for increased costs is the large proportion of Canadian student population concentrated in high schools where programs are more expensive than at other grade levels. Inflation is another reason for rising educational expenditures, and because of the labor-intensive nature of education, this rise is probably greater than changes in the Consumer Price Index. In addition, the new focus on equal educational treatment has necessitated a wide range of expensive special and compensatory programs. Thus, equality has become more important than efficiency. Finally, an upgrading of educational quality, evidenced by teachers with more formal education and experience and a reduction in the pupil teacher ratio, has resulted in higher expenditures for teacher salaries. The dilemma facing school boards is the incompatibility of two highly desirable goals: equality and efficiency. In the future, when formulating programs, educational policy makers must recognize the scarcity of resources. A more critical review of educational policies is necessary. Resources must be apportioned to the goods and services most valued by the public. (Author/JM)

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FALLING ENROLLMENTS AND RISING EXPENDITURES

THE SCHOOL BOARD'S DILEMMA

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Falling Enrolments and Rising Expenditures: The

School Board's Dilemma

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INTRODUCTION

Until fairly recently politicians willingly provided funds for all types of education; leaders from all walks of life urged the youth of our country to remain at school for as long as possible; and educators promoted education as the universal solution to many of our social problems. The net result was that education experienced a period of phenomenal growth during which any criticisms of the level of educational expenditures were viewed as almost subversive if not downright unpatriotic.

In contrast, it would now appear that the crest of the wave of popularity upon which education has been riding is beginning to falter. Today, governments are attempting to limit educational expenditures in face of declining enrolments; students are beginning to question the economic value of extended formal education in light of present unemployment trends; and the public is growing more skeptical about the ability of education to compensate for other social inequities. As a consequence, education is now becoming the subject of closer and more detailed scrutiny.

It is evident from these changing attitudes that education no longer commands the same esteem it once did. The continued increase

in educational spending, despite a decline in enrolments, has provided a rallying point for many of education's critics. In an effort to put the latter concern into some perspective this paper will briefly describe the growth of educational expenditures in an historical context and examine some of the major factors affecting educational costs. Hopefully, these comments will provide a useful framework which will assist you in dealing with this *theory* problem.

The Growth of Educational Expenditures

For the past 100 years Canada has experienced a period of economic growth and material development unparalleled in any other era of history. The benefits to education of this development have only really occurred since World War II. In 1950, expenditures for public education in Canada totalled \$308.3 million which represented 1.66 per cent of the G.N.P. By 1966 educational expenditures for elementary and secondary education had risen to \$2.79 billion or 4.5 per cent of the G.N.P. and ten years later the amount had almost quadrupled to \$9.7 billion.

Much of this growth reflected the public's attitude towards education as much as rising enrolments. However, it was evident even in the late sixties that if the rate of growth of educational expenditures was not reduced then all of the GNP would eventually be directed towards education.

During this rapid rise in spending, the burden of financing education was shifted to the provincial governments. When services are provided by higher levels a government there is no direct link between taxes paid and benefits received. Consequently, there is a tendency for the public to demand greater levels of service from provincial

governments. Part of the demand for increased educational services may therefore be accounted for by this factor. However, in recent years the competition for funding among the various services provided by provincial governments has increased dramatically. One of the outcomes, in some provinces, has been to require more local support for education. As property taxes for education have risen so has the criticism of educational expenditures.

Factors Influencing Educational Expenditures

Given the situation just outlined it is understandable that constraints on educational expenditures are a major concern of many school boards. While attempts are being made to limit spending through closing schools; reducing maintenance; and lowering temperatures there are limits to the savings that can be expected from these endeavors. In fact, the only way that the growth of educational spending can be curtailed is by an adjustment in the educational services provided. But what are the factors that determine the cost of educational services? Traditionally, three sets of factors have been proposed which are:

- 1) Demographic changes
- 2) Increases in the price level of educational services
- 3) Educational policy changes.

Demographic Changes

It is fairly obvious that as enrolments increase it will become necessary to expand basic educational services which will result in an increased level of expenditures. Thus, part of the 87.3 per cent increase in expenditures between 1966-67 and 1971-72 elementary and secondary education in Canada can be justified by the 11.3 per cent increase in enrolments. However, changes in levels of enrolment cannot

explain the fact that between 1971-72 and 1976-77 expenditures rose by 109 per cent although enrolments in Canadian elementary and secondary schools declined by 379,000 students or 6.7 per cent. Perhaps the only way to counter these statistics is to suggest that had enrolments remained constant then expenditures would have been significantly higher than they were.

While a recent report suggests that for the time period 1957 to 1976 less than 20 per cent of the total increase of educational expenditures can be attributed to higher enrolments it must be remembered that other demographic changes can affect levels of spending. For example, different patterns of enrolments among elementary and secondary schools have cost implications. Traditionally, secondary school teachers have received higher salaries than their counterparts in elementary schools while at the same time benefitting from a lower pupil-teacher ratio. As retention rates of high school students have improved and the baby boom has moved through the school system, a larger proportion of our student population is to be found in the high schools. This change in patterns of enrolment favors the more costly programs. It is therefore possible that even with a decline in enrolment some increase in expenditures might be expected. Thus, in this discussion I have attempted to show that although there is a decrease in enrolments, other demographic factors may come into play which result in higher educational costs.

Increase in Price Levels

With the current concerns over inflation it cannot be denied that the increases in the price of educational inputs such as teachers' salaries and learning materials have contributed to rising educational

expenditures. What is difficult, however, is to estimate with some accuracy the actual effect of inflation on the costs of public education.

The term "inflation" applies to a general change in the level of all prices. However, in a given time period, all prices do not change in exactly the same proportion. Consequently, inflation affects the various segments of society differently.

A measure which is commonly used to express the movement of prices is the price index. While price indexes exist for different commercial and industrial sectors, no such index exists for education. In lieu of an education index, there is a tendency to use the Consumer Price Index. However, the problem with using this index is that the majority of prices included in it have no place in an educational budget. The C.P.I. is primarily a measure of changes in the prices of commodities as food, housing and clothing.

In spite of this drawback one is able to obtain some assessment of the proportion of the increase in expenditures that might be accounted for by inflation. Thus, for the period 1965-66 to 1971-72 expenditures per student which provides a measure of the educational services received by each student increased from \$478 to \$826; a 72.8 per cent increase. During the same period the Consumer Price Index rose by 15.5 per cent. For the succeeding five year period educational expenditures rose by 122.5 per cent to \$1838 per student while the Consumer Price Index increased by 57 per cent.

These comparisons suggest that inflation has played an increasingly significant part in raising educational expenditures but, because of the labor intensive nature of education this effect is probably greater

than indicated by the changes in the Consumer Price Index. However, inflation does not account for the total increase in per pupil expenditure.

Educational Policy Changes

Changes in educational policy with respect to the nature, quality, and quantity of education must also play a part in explaining the rise in per pupil expenditures. While there is not sufficient time to explore this factor in great detail I propose to provide two examples of policy issues which have a significant bearing on educational expenditures.

a) Values affecting educational services. Many values are reflected within educational policies but perhaps the two most over-riding values with which trustees and administrators must deal are: efficiency and equality. The dilemma in dealing with these two values as goals is that no educational policy can be designed to fulfill both goals at the same time. In fact, the conditions desirable for attaining equality in education are inconsistent with those for achieving efficiency. Thus one is faced with a situation where attempts to achieve equality will lead to a decrease in efficiency or vice versa. In other words, pursuit of one of these values will have to be at the exclusion of the other.

For the past few decades educational policies have promoted equality of educational opportunity at the expense of efficiency. Moreover, the concept of equity has passed through several evolutionary stages; each one having an impact on educational expenditures.

Initially equality of educational opportunity was viewed as equal access to education which called for the provision of a minimum level of school resources for each student. Under such a definition, the provision of a school could be taken as providing equal educational opportunity.

Earlier provincial grant systems which provided a base grant per student were premised on this concept of equality. However, it is fairly evident that a uniform grant to each school board will not guarantee a common level of educational services. In fact, costs for the same services can vary considerably among regions in a province; the more able teachers tend to be attracted to larger urban settings; and smaller school systems suffer from dis-economies of scale. The only way that such inequities may be counteracted is by ensuring equal educational treatment.

This concept of equality of educational opportunity recognizes that students have widely differing learning characteristics and abilities. Thus, the level of educational services provided to compensate for, or take advantage of, each student's capabilities will vary considerably. Today, many school boards in responding to this view provide a whole range of special and compensatory educational services. While the change of focus from equal access to equal treatment is an attempt to compensate for personal disabilities in order that each student may benefit equally from the educational system it has resulted in unequal expenditures among students.

A study of the costs of educating handicapped students in the public schools of New York provides a useful example of the financial implications of special education projects. In 1975 the cost for educating an average non-handicapped student in New York City was \$2294 while the average cost for educating a handicapped child was \$5,897. This average, however, does not express the wide range of programs. One of the more inexpensive programs for the educable mentally retarded cost \$4,243 per pupil each year. In contrast the program for the multiply handicapped cost over

\$14,000 per student each year. By using this example, I feel compelled to state that I am not suggesting that these services be limited but merely attempting to indicate another factor contributing to our present dilemma.

Since the beginning of the 1970's a number of policy analysts have been urging the adoption of yet another interpretation of equality of educational opportunity. The most recent definition is posited on the conviction that academic achievement is critical to a person's social and economic success. Consequently, the concept of equality is changing from one of equal treatment to one of equality of educational outcomes for each student. Much of the recent interest in the education of immigrant children may be attributed to this development.

Should this approach to educational equality be implemented completely then schools will be responsible for providing "equality of life chances". In other words, schools, resources and services will be directed towards ensuring that every normal child, upon graduation from secondary school, will have an equal opportunity to compete with any other student. The costs to fully implement such a system to compensate for socio-economic status; ethnic origin and other social factors would be staggering.

It is obvious from these brief comments that efficiency has not been the predominant guiding principle for education. If the principle of efficiency were to be promoted then one could expect substantial changes to the type of educational programs that have been developed to assure educational equality since efficiency strives to increase the units of output for each unit of input.

b) Quality of Education. Once a commitment has been made to a particular set of educational goals then attention must be given to the process by which these goals are to be attained. Attempts to upgrade the quality of education are the most commonly used means to improve the educational process. Although it is impossible to arrive at any commonly acceptable measure of educational quality, several indicators might be used to assess the effect on costs by improving the quality of education. Among the most common of such indicators are: the upgrading of the teaching forces' formal education; an increase in the teaching experience of the teaching force; and a reduction in the pupil teacher ratio. Since 1966 significant changes in these indicators have occurred which have inevitably resulted in increased expenditures.

Between 1966-67 and 1976-77 the per cent of elementary teachers with undergraduate degrees has increased from 13.3 per cent of the elementary teaching force to 52.8 per cent. Although the increase among secondary school teachers was less dramatic it did increase from 70.6 per cent to 83.9 per cent for the same time period. Coincidentally, there has been a consistent increase in the average teaching experience of our teachers. In 1966-67, the average teaching experience for both elementary and secondary teachers was approximately 6 1/2 years. However, by 1976-77, the average teaching experience for elementary school teachers was 8 1/3 years and 9 years for secondary school teachers.

In most cases an individual teacher's salary is determined by his or her position on a salary grid which takes into account formal education and years of teaching experience. Thus, the changes noted above suggest that these factors contribute to the general increase of per student expenditure.

The other indicator of quality education mentioned was the pupil-teacher ratio which has also had an impact on per pupil expenditures. The average pupil-teacher ratio for Canada has declined steadily over the period 1965-77 from 25.0:1 to 20.4:1, a decrease of approximately 18 per cent. The impact of such a reduction on educational expenditures is not insignificant.

If the 1965-66 P.T.R. of 25.0:1 prevailed today then the number of teachers required for Canada would be about 211,000 rather than the present 259,000 teachers. The effect of this change on educational expenditures would be to reduce the salary component by just under \$0.8 billion assuming a median salary of \$16,500.

Implications for the Future

So far I have tried to outline some of the major factors contributing to the rapid rise in educational expenditures. It is evident that declining enrolments will not automatically result in a reduction of educational expenditures as long as present educational policies are followed. Vigorous attempts can be introduced to reduce the cost of non-educational, peripheral, activities such as maintenance and heating. But there is a limit to the number of schools to be closed; the number of years that repairs can be ignored; and the number of degrees by which the temperature can be lowered. Consequently, efforts to limit costs in these areas will soon be reached. Even if inflation were contained I am convinced that the cost of education will continue to rise unless educational policies are reconsidered. Therefore, the dilemma facing school boards is not one of rising costs and declining enrolments but the incompatibility of two highly desirable goals: equality and efficiency.

If the desire to limit expenditures is sincere through the introduction of efficiency then some measures of equality of educational opportunity will have to be relinquished. In making this statement I am not suggesting that education enter a period of austerity where only children who can benefit from education by an amount commensurate with the cost of schooling would be eligible to receive any formal education. Such a move would be too extreme.

What I am suggesting, however, is that educational policy-makers have to recognize that even in our relatively affluent society a scarcity of resources exists. Thus, the implementation of any educational policy employs resources which could be used for alternative purposes. If resources are now being consumed for educational services that are not valued by the public as much as some other goods or services then it can be argued that there is an inefficient use of resources. It is this type of efficiency with which educators must become concerned rather than the economic efficiency outlined above.

In view of the increasing skepticism that is being voiced about the ability of education to compensate for the many inequities that exist among students it is evident that a more critical review of educational policies is necessary. In undertaking such a review, educational policy-makers must recognize that the educational sector is not an island unto itself but that the capabilities of educational policies of equity are dependent upon the general economic and political conditions of society. In fact, resources might be better utilized in promoting a policy of full employment to alleviate the career crises and income insecurity being experienced by our youth rather than funding a program of life long education.

Any changes in the policy of equality of educational opportunity should not be undertaken without some global review of present policies. In undertaking such a review it might prove useful to refer to three questions that arise from the fundamental economic problems that plague any society. These are:

- 1) What educational programs shall be made available?
- 2) How shall these programs be made available?
- 3) Who shall benefit from the educational programs made available?

While I have presented the issue in an economic context I recognize that the responses to these questions will be determined through the political process. Any attempt to limit educational services is bound to affect one or more segments of society. For example, an increase in P.T.R. will affect the job security of the present teaching force whereas the withdrawal of special education programs will be to the detriment of other members of our society. In either case, strong representations can be made not to make any changes. The issue to be resolved, is whether administrators and trustees are prepared to accept this challenge.

The decision is up to you.